REMARKS

This responds to the Office Action mailed on March 14, 2005. By this response, claim 3 was amended to overcome the Examiner's objection. No additional claims were amended, canceled, or added. As a result, claims 1-7 remain pending in this application.

Objection to the Claims

A. Objection: Claims 3-4 were objected to because of the following informalities: The limitation of claim 3 and 4 are similar. Correction is required.

B. Response to 35 USC § 102 Rejection: Claim 3 was amended to depend from claim 2 rather than claim 1. As a result, applicant now feels that the Examiner's objection to claims 3 and 4 is now overcome.

§102 Rejection of the Claims

A. 35 USC § 102 Rejection: Claim 5 was rejected under 35 USC § 102(b) as being anticipated by Toy et al. (U.S. 5,982,038).

B. Response to 35 USC § 102 Rejection: Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, "[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

Claim 5 recites "...applying a current to the solder preform until the solder preform melts to seal a metal cover to the insulating base." The Toy et al. fails to teach this element. Rather,

Toy et al. teaches providing "...A cap sealant or solder seal 23...in order to secure the cap or cover 20, to the substrate or module 10." (See column 5, lines 12-14). An electronic search of Toy et al. reference at the uspto.gov website did not yield the element of applying a current to the solder preform. The Toy et al. reference only used of the word current in the specification when referring to the "current invention" (See column 4, line 2, and column 12, line 17 of Toy et al.). In addition, it appears that the Examiner admits that the Toy et al. reference fails to teach this element on page 4 of the Office Action dated March 14, 2005. Therefore, the Toy et al. reference does not anticipate claim 5 since the Toy et al. reference fails to disclose of each and every element of the claimed invention, much less each and every element arranged as in the claim. Accordingly, claim 5 overcomes the Examiner's rejection under 35 USC § 102(b) as being anticipated by Toy et al. (U.S. 5,982,038).

§103 Rejection of the Claims

A. 35 USC § 103 Rejection: Claims 1-2 and 6-7 were rejected under 35 USC § 103(a) as being unpatentable over Toy et al. (U.S. 5,982,038) in view of Heschel (U.S. 6,818,464).

B. Response to 35 USC § 103 Rejection: In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

Claim 1 recites "A method of manufacturing an optoelectronic package having an insulating base with multiple conductive vias running through the insulating base, and having a metal cover that at least partially encloses an optoelectronic device mounted on the insulating base, the method comprising...applying a current through the multiple conductive vias to heat the solder preform to melt." The Toy et al. reference fails to teach or suggest several elements as

now claimed. The Examiner admits that Toy et al. does not teach "...applying a current to the solder preform until the solder preform melts to seal a metal cover to the insulating base." (See top of page 4 of the Office Action dated March 14, 2005). It follows, that the Toy et al. reference, therefore does not teach or suggest applying a current through the multiple conductive vias in the insulating base to heat the solder preform as recited in claim 1. In addition, the Toy et al. reference does not teach or suggest an optoelectronic package, or a metal cover that at least partially encloses an optoelectronic device. One of the purposes of Toy et al. is to "provide for a fluid-tight seal." Another "...purpose of this invention is to have a hermetic seal." The Examiner relies on the Heschel reference for providing the missing elements. Heschel teaches placing a ceramic lid over an optoelectonic assembly. The ceramic lid of Heschel also has a through-hole. However, Hescel does not teach or suggest applying current to melt the solder. Heschel also fails to teach or suggest applying a current through the vias in the insulating base to melt the solder. Therefore, a combination of Toy et al. and Heschel would fail to make a proper *prima facie* case of obviousness since the combination fails to teach or suggest all the claim limitations.

In addition, one of ordinary skill in the art would not combine Toy et al. and Heschel when contemplating a solution for capping an optoelectronic device. Toy et al. teaches placing a solid metal cap over the electronic devices, and then placing a heat sink on top of a metal cap. The metal cap or the heat sink would prevent any optoelectronic device from functioning, as either the cap or the heat sink would block a light path carrying any optical signal. Toy et al. also provides thermal coupling to the top of the metal cap which could also block a light path. Therefore, the combination of Toy et al. and Heschel would result in an inoperable optoelectronic device: namely, a device that would produce a signal that remains within the cap. Therefore, the combination of Toy et al. and Heschel fails to set forth a proper prima facie case of obviousness since the suggested combination would fail rather than have the required reasonable expectation of success.

Placing the cap of Toy et al. onto an optoelectronic device would also destroy the optoelectronic device. As a result, there is no suggestion or motivation to combine the references as suggested by the Examiner. Accordingly, the Examiner has failed to set forth a proper *prima facie* case of obviousness with respect to claim 1. Accordingly, claim 1 now

overcomes the rejection under 35 USC § 103(a) as being unpatentable over Toy et al. (U.S. 5,982,038) in view of Heschel (U.S. 6,818,464).

Claim 2 depends from claim 1 in this application. Therefore, the recitations of claim 1 are included in claim 2. Since all the elements of claims 1 and 2 are not taught by the combination of the Toy et al. (U.S. 5,982,038) and Heschel (U.S. 6,818,464), and since the combination would result in an ineffective optoelectronic device, the rejection of claims 2-4 under 35 USC § 103(a) as being unpatentable over Toy et al. (U.S. 5,982,038) in view of Heschel (U.S. 6,818,464) is also overcome.

Claims 6-7 depend from claim 5. Therefore, claims 6 and 7 include the recitations of claim 5 by their dependency. Claim 5 recites "...applying a current to the solder preform until the solder preform melts to seal a metal cover to the insulating base." The Toy et al. fails to teach this element, as admitted by the Examiner. The Heschel reference also fails to teach this element. As discussed above, there is no teaching in the Heschel reference regarding application of current to melt the solder of the preform. As a result, the combination of Toy et al. and Heschel would fail to make a proper *prima facie* case of obviousness since the combination fails to teach or suggest all the claim limitations.

In addition, one of ordinary skill in the art would not combine Toy et al. and Heschel when contemplating a solution for capping an optoelectronic device. Toy et al. teaches placing a solid metal cap over the electronic devices, and then placing a heat sink on top of a metal cap. The metal cap or the heat sink would prevent any optoelectronic device from functioning, as either the cap or the heat sink would block a light path carrying any optical signal. Toy et al. also provides thermal coupling to the top of the metal cap which could also block a light path. Therefore, the combination of Toy et al. and Heschel would result in an inoperable optoelectronic device: namely, a device that would produce a signal that remains within the cap. Therefore, the combination of Toy et al. and Heschel fails to set forth a proper prima facie case of obviousness since the suggested combination would fail rather than have the required reasonable expectation of success.

Placing the cap of Toy et al. onto an optoelectronic device would also destroy the optoelectronic device. As a result, there is no suggestion or motivation to combine the references as suggested by the Examiner. Accordingly, the Examiner has failed to set forth a

proper *prima facie* case of obviousness with respect to claims 6 and 7. Accordingly, claims 6 and 7 now overcome the rejection under 35 USC § 103(a) as being unpatentable over Toy et al. (U.S. 5,982,038) in view of Heschel (U.S. 6,818,464).

C. 35 USC § 103 Rejection: Claims 3-4 were rejected under 35 USC § 103(a) as being unpatentable over Toy et al. (U.S. 5,982,038) in view of Ma et al. (U.S. 6,709,898).

D. Response to 35 USC § 103 Rejection: In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

Claims 3-4 depend from claim 1. Therefore, claims 3 and 4 include the recitations of claim 1 by their dependency. Claim 1 recites "A method of manufacturing an optoelectronic package having an insulating base with multiple conductive vias running through the insulating base, and having a metal cover that at least partially encloses an optoelectronic device mounted on the insulating base, the method comprising...applying a current through the multiple conductive vias to heat the solder preform to melt." The Toy et al. reference fails to teach or suggest several elements as now claimed. The Examiner admits that Toy et al. does not teach "...applying a current to the solder preform until the solder preform melts to seal a metal cover to the insulating base." (See top of page 4 of the Office Action dated March 14, 2005). It follows, that the Toy et al. reference, therefore does not teach or suggest applying a current through the multiple conductive vias in the insulating base to heat the solder preform as recited in claim 1.

In addition, neither the Toy et al. reference or the Ma et al. reference teach or suggest an optoelectronic package, or a metal cover that at least partially encloses an optoelectronic device. One of the purposes of Toy et al. is to "provide for a fluid-tight seal." Another "...purpose of this

invention is to have a hermetic seal." Accordingly, Toy et al. places a solid cover or cap over the electronics. Toy et al. also teaches placing a heat spreader over the cap. Ma et al. teaches placing a die within a heat spreader. In both instances, the electronics are totally covered. One of ordinary skill in sealing an optoelectronic device that must output signals using light would not look to two devices that teach totally enclosing electronics. Simply put, one of ordinary skill in the art would not combine Toy et al. and Ma et al. when contemplating a solution for capping an optoelectronic device.

In addition, the combination of Toy et al. and Ma et al. would result in an inoperable optoelectronic device: namely, a device that would produce a signal that remains within the cap or within a heat spreader. Therefore, the combination of Toy et al. and Ma et al. fails to set forth a proper *prima facie* case of obviousness since the suggested combination would fail rather than have the required reasonable expectation of success.

Placing the cap of Toy et al. onto an optoelectronic device would also destroy the optoelectronic device. Similarly, placing the optoelectronic device in the heat spreader as taught by Ma et al. would also destroy the optoelectronic device or render it useless. In each case, the light carrying signal would be trapped within an enclosure. As a result, there is no suggestion or motivation to combine the references as suggested by the Examiner. Accordingly, the Examiner has failed to set forth a proper *prima facie* case of obviousness with respect to claims 3 and 4. Accordingly, claims 3 and 4 now overcomes the rejection under 35 USC § 103(a) as being unpatentable over Toy et al. (U.S. 5,982,038) in view of Heschel (U.S. 6,818,464).

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 373-6977) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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